

IN THE CLAIMS

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58. (Currently Amended) A gateway for communicating telecommunication information, comprising:

a telecommunication interface module operable to receive first telecommunication information for a first subscriber and second telecommunication information for a second subscriber circuit-switched from a telecommunication network, wherein the first and second telecommunication information is received in any of a plurality of various formats, the telecommunication interface module operable to provide the first telecommunication information and the second telecommunication information on a common bus; and

one or more packetization modules operable to receive the first and second telecommunication information from the common bus, the one or more packetization modules operable to generate first data packets for communicating the first telecommunication information to first customer premises equipment according to a first data communication protocol associated with the first subscriber and to generate second data packets for communicating the second telecommunication information to second customer premises equipment according to a second data communication protocol associated with the second subscriber, wherein the first and second data communication protocols are selected from any of a plurality of various protocol types.

59. (Previously Presented) The gateway of Claim 58, wherein:

each of a plurality of subscribers is associated with a separate telecommunication interface; and

the telecommunication interface module is further operable to identify the first subscriber according to a telecommunication interface from which the telecommunication interface module receives the first telecommunication information.

60. (Previously Presented) The gateway of Claim 59, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

61. (Previously Presented) The gateway of Claim 58, wherein the telecommunication interface module is further operable to identify the first subscriber according to a subscriber identifier received with the first telecommunication information.

62. (Previously Presented) The gateway of Claim 61, wherein the subscriber identifier is a name, address, or telephone number.

63. (Previously Presented) The gateway of Claim 58, further comprising one or more compression modules operable to compress the first telecommunication information using a first compression algorithm associated with the first subscriber and to compress the second telecommunication information using a second compression algorithm associated with the second subscriber.

64. (Previously Presented) The gateway of Claim 63, further comprising a memory operable to store a first subscriber profile associating the first subscriber with the first compression algorithm and the first data communication protocol and a second subscriber profile associating the second subscriber with the second compression algorithm and the second data communication protocol.

65. (Previously Presented) The gateway of Claim 63, further comprising a management module operable to select, for the first subscriber, a compression module supporting the first compression algorithm and a packetization module supporting the first data communication protocol.

66. (Previously Presented) The gateway of Claim 63, further comprising a management module operable to select a compression module supporting the first compression algorithm, to select a packetization module supporting the first data communication protocol, and to assign at least one time slot of a time division multiplexing (TDM) bus to communicate the first telecommunication information to the selected compression module and the selected packetization module.

67. (Previously Presented) The gateway of Claim 58, further comprising one or more network interface modules operable to communicate the first data packets using a first data link associated with the first subscriber and to communicate the second data packets using a second data link associated with the second subscriber.

68. (Previously Presented) The gateway of Claim 67, wherein:

the first data link communicates the first data packets to a digital subscriber line access multiplexer (DSLAM); and

the second data link communicates the second data packets to a cable modem termination system (CMTS) or a base station controller (BSC).

69. (Previously Presented) The gateway of Claim 58, further comprising one or more echo cancellation modules operable to perform echo cancellation on the first telecommunication information but not the second telecommunication information.

70. (Previously Presented) The gateway of Claim 58, further comprising:

a time division multiplexing (TDM) bus coupled to the packetization modules and operable to communicate the first and second telecommunication information to the packetization modules using one or more time slots; and

a data packet bus coupled to the packetization modules and operable to communicate the first and second data packets from the packetization modules.

71. (Previously Presented) The gateway of Claim 58, further comprising an IEEE 802.6 bus coupled to the packetization modules, the IEEE 802.6 bus operable to communicate the first and second telecommunication information to the packetization modules and to communicate the first and second data packets from the packetization modules.

72. (Currently Amended) A method for communicating telecommunication information, comprising:

receiving first telecommunication information for a first subscriber circuit-switched from a telecommunication network;

receiving second telecommunication information for a second subscriber circuit-switched from the telecommunication network;

transporting the first and second telecommunication information over a common information bus;

generating first data packets for communicating the first telecommunication information to first customer premises equipment according to a first data communication protocol associated with the first subscriber;

~~receiving second telecommunication information for a second subscriber from the telecommunication network;~~

generating second data packets for communicating the second telecommunication information to second customer premises equipment according to a second data communication protocol associated with the second subscriber;

transporting the first and second data packets over a common packet bus;

wherein the first and second data communication protocols are selected from any of a plurality of various protocol types;

wherein the first and second telecommunication information are received in any of a plurality of various formats.

73. (Previously Presented) The method of Claim 72, further comprising:

associating each of a plurality of subscribers with a separate telecommunication interface;

receiving the first telecommunication information from a first telecommunication interface;

identifying the first subscriber associated with the first telecommunication interface;

receiving the second telecommunication information from a second telecommunication interface; and

identifying the second subscriber associated with the second telecommunication interface.

74. (Previously Presented) The method of Claim 73, wherein the first and second telecommunication interfaces are unbundled analog lines.

75. (Previously Presented) The method of Claim 72, further comprising identifying the first subscriber according to a subscriber identifier received with the first telecommunication information.

76. (Previously Presented) The method of Claim 75, wherein the subscriber identifier is a name, address, or telephone number.

77. (Previously Presented) The method of Claim 72, further comprising:

compressing the first telecommunication information using a first compression algorithm associated with the first subscriber; and

compressing the second telecommunication information using a second compression algorithm associated with the second subscriber.

78. (Previously Presented) The method of Claim 77, further comprising:

storing a first subscriber profile associating the first subscriber with the first compression algorithm and the first data communication protocol; and

storing a second subscriber profile associating the second subscriber with the second compression algorithm and the second data communication protocol.

79. (Previously Presented) The method of Claim 77, further comprising:

selecting a compression module supporting the first compression algorithm to compress the first telecommunication information;

selecting a packetization module supporting the first data communication protocol to generate the first data packets.

80. (Previously Presented) The method of Claim 77, further comprising:

selecting a compression module supporting the first compression algorithm;

selecting a packetization module supporting the first data communication protocol; and

assigning one or more time slots in a time division multiplexing (TDM) bus to communicate the first telecommunication information to the selected compression module and the selected packetization module.

81. (Previously Presented) The method of Claim 72, further comprising:

communicating the first data packets using a first data link associated with the first subscriber; and

communicating the second data packets using a second data link associated with the second subscriber.

82. (Previously Presented) The method of Claim 81, further comprising:

communicating the first data packets to a digital subscriber line multiplexer (DSLAM) using the first data link; and

communicating the second data packets to a cable modem termination system (CMTS) or a base station controller (BSC) using the second data link.

83. (Previously Presented) The method of Claim 72, further comprising:

performing echo cancellation on the first telecommunication information; and
bypassing echo cancellation for the second telecommunication information.

84. (Previously Presented) The method of Claim 72, further comprising:

communicating the first telecommunication information to a packetization module supporting the first data communication protocol using a time division multiplexing (TDM) bus; and
communicating the first data packets from the packetization module using a data packet bus.

85. (Previously Presented) The method of Claim 72, further comprising:

communicating the first telecommunication information to a packetization module supporting the first data communication protocol using an IEEE 802.6 bus; and
communicating the first data packets from the packetization module using the IEEE 802.6 bus.

86. (Previously Presented) The method of Claim 72, further comprising:

communicating the first data packets to a digital subscriber line access multiplexer (DSLAM) using the first data communication protocol;

communicating the first data packets from the DSLAM to an integrated access device (IAD) using a digital subscriber line;

communicating the second data packets to a cable modem termination system (CMTS) using the second data communication protocol; and

communicating the second data packets from the CMTS to a media terminal adapter (MTA) using a cable link.

87. (Previously Presented) The method of Claim 72, further comprising:

communicating the first data packets to a digital subscriber line access multiplexer (DSLAM) using the first data communication protocol;

communicating the first data packets from the DSLAM to an integrated access device (IAD) using a digital subscriber line;

communicating the second data packets to a base station controller (BSC) using the second data communication protocol; and

communicating the second data packets from the BSC to a wireless network interface unit (WNIU) using a wireless link.

88. (Previously Presented) The method of Claim 72, further comprising:

communicating the first data packets to a cable modem termination system (CMTS) using the first data communication protocol;

communicating the first data packets from the CMTS to a media terminal adapter (MTA) using a cable link;

communicating the second data packets to a base station controller (BSC) using the second data communication protocol; and

communicating the second data packets from the BSC to a wireless network interface unit (WNIU) using a wireless link.

89. (Currently Amended) A system for communicating telecommunication information, comprising:

a memory operable to store subscriber profiles associating each of a plurality of subscribers with a data communication protocol;

a telecommunication interface module operable to receive telecommunication information for a plurality of subscribers circuit-switched from a telecommunication network;

a common bus operable to transport telecommunication information received from the plurality of subscribers;

a packetization module operable to receive the telecommunication information from the common bus, the packetization module operable to generate data packets for communicating the telecommunication information to customer premises equipment according to a data communication protocol associated with the plurality of subscribers;

wherein the data communication protocol is selected from any of a plurality of various protocol types;

wherein the telecommunication information is received in any of a plurality of various formats.

90. (Previously Presented) The system of Claim 89, wherein:

the subscriber profiles associate each of the subscribers with a separate telecommunication interface; and

the telecommunication interface module is further operable to identify the subscriber according to a telecommunication interface from which the telecommunication interface module receives the telecommunication information.

91. (Previously Presented) The system of Claim 90, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

92. (Previously Presented) The system of Claim 89, wherein the telecommunication interface module is further operable to receive a subscriber identifier with the telecommunication information and to identify the subscriber according to the subscriber identifier.

93. (Previously Presented) The system of Claim 92, wherein the subscriber identifier is a name, address, or telephone number.

94. (Previously Presented) The system of Claim 89, further comprising:

a compression module operable to compress the telecommunication information using a compression algorithm associated with the subscriber; and

wherein the subscriber profiles associate each of the subscribers with a compression algorithm.

95. (Previously Presented) The system of Claim 89, further comprising:

a network interface module operable to communicate the data packets using a data link associated with the subscriber; and

wherein the subscriber profiles associate each of the subscribers with a data link.

96. (Previously Presented) The system of Claim 89, further comprising an echo cancellation module operable to perform echo cancellation on the telecommunication information according to whether the subscriber's profile indicates that the echo cancellation module should perform echo cancellation on the subscriber's telecommunication information.

97. (Previously Presented) The system of Claim 89, further comprising:

a time division multiplexing (TDM) bus coupled to the packetization module and operable to communicate the telecommunication information to the packetization module using one or more time slots; and

a data packet bus coupled to the packetization module and operable to communicate the data packets from the packetization module.

98. (Previously Presented) The system of Claim 89, further comprising an IEEE 802.6 bus coupled to the packetization module, the IEEE 802.6 bus operable to communicate the telecommunication information to the packetization module and to communicate the data packets from the packetization module.

99. (Previously Presented) The system of Claim 89, further comprising a management module operable to select the packetization module from a plurality of packetization modules according to the data communication protocol associated with the subscriber and to assign one or more time slots in a time division multiplexing (TDM) bus to communicate the telecommunication information to the selected packetization module.

100. (Currently Amended) A method for communicating telecommunication information, comprising:

associating each of a plurality of subscribers with a data communication protocol;

receiving the telecommunication information for the plurality of subscribers circuit-switched from a telecommunication network;

transporting the received telecommunication information over a common bus;

generating data packets for communicating the telecommunication information to customer premises equipment according to a data communication protocol associated with each of the plurality of subscribers;

wherein the data communication protocol is selected from any of a plurality of various protocol types;

wherein the telecommunication information is received in any of a plurality of various formats.

101. (Previously Presented) The method of Claim 100, further comprising:

associating each of the subscribers with a separate telecommunication interface;

receiving the telecommunication information from a telecommunication interface; and

identifying the subscriber associated with the telecommunication interface.

102. (Previously Presented) The method of Claim 101, wherein the telecommunication interface is an analog line coupled to a telecommunication switch.

103. (Previously Presented) The method of Claim 100, further comprising:

receiving a subscriber identifier with the telecommunication information; and

identifying the subscriber according to the subscriber identifier.

104. (Previously Presented) The method of Claim 103, wherein the subscriber identifier is a name, address, or telephone number.

105. (Previously Presented) The method of Claim 100, further comprising:

associating each of the subscribers with a compression algorithm; and

compressing the telecommunication information using a compression algorithm associated with the subscriber.

106. (Previously Presented) The method of Claim 100, further comprising:

associating each of the subscribers with a data link; and

communicating the data packets using a data link associated with the subscriber.

107. (Previously Presented) The method of Claim 100, further comprising:

storing subscriber profiles indicating whether to perform echo cancellation on each subscriber's telecommunication; and

performing echo cancellation on the telecommunication information according to the subscriber's stored profile.

108. (Previously Presented) The method of Claim 100, further comprising:

communicating the telecommunication information to a packetization module supporting the subscriber's associated data communication protocol using a time division multiplexing (TDM) bus; and

communicating the data packets from the packetization module using a data packet bus.

109. (Previously Presented) The method of Claim 100, further comprising:

communicating the telecommunication information to a packetization module supporting the subscriber's associated data communication protocol using an IEEE 802.6 bus; and

communicating the data packets from the packetization module using the IEEE 802.6 bus.

110. (Previously Presented) The method of Claim 100, further comprising:

selecting a packetization module supporting the data communication protocol associated with the subscriber; and

assigning one or more time slots in a time division multiplexing (TDM) bus to communicate the telecommunication information to the selected packetization module.

111. (Currently Amended) A system for communicating telecommunication information, comprising:

a gateway operable to associate each of a plurality of subscribers with a data communication protocol, to receive telecommunication information for subscribers circuit-switched from a telecommunication network, transport telecommunication information for each subscriber over a common bus, and to generate data packets for communicating each subscriber's telecommunication information to each subscriber's customer premises equipment according to the data communication protocol associated with each subscriber, wherein the data communication protocol is selected from any of a plurality of various protocol types, wherein the telecommunication information is received in any of a plurality of various formats;

a digital subscriber line access multiplexer (DSLAM) operable to communicate at least some of the data packets generated by the gateway to an integrated access device (IAD) using a digital subscriber line; and

a cable modem termination system (CMTS) operable to communicate at least some of the data packets generated by the gateway to a media terminal adapter (MTA) using a cable link.

112. (Previously Presented) The system of Claim 111, wherein the gateway generates data packets for communication to the DSLAM according to a first data communication protocol and generates data packets for communication to the CMTS according to a second data communication protocol.

113. (Previously Presented) The system of Claim 111, further comprising a base station controller (BSC) operable to communicate at least some of the data packets generated by the gateway to a wireless network interface unit (WNIU) using a wireless link.

114. (Previously Presented) The system of Claim 111, wherein the gateway generates data packets for communication to the DSLAM according to a first data communication protocol and generates data packets for communication to the BSC according to a second data communication protocol.